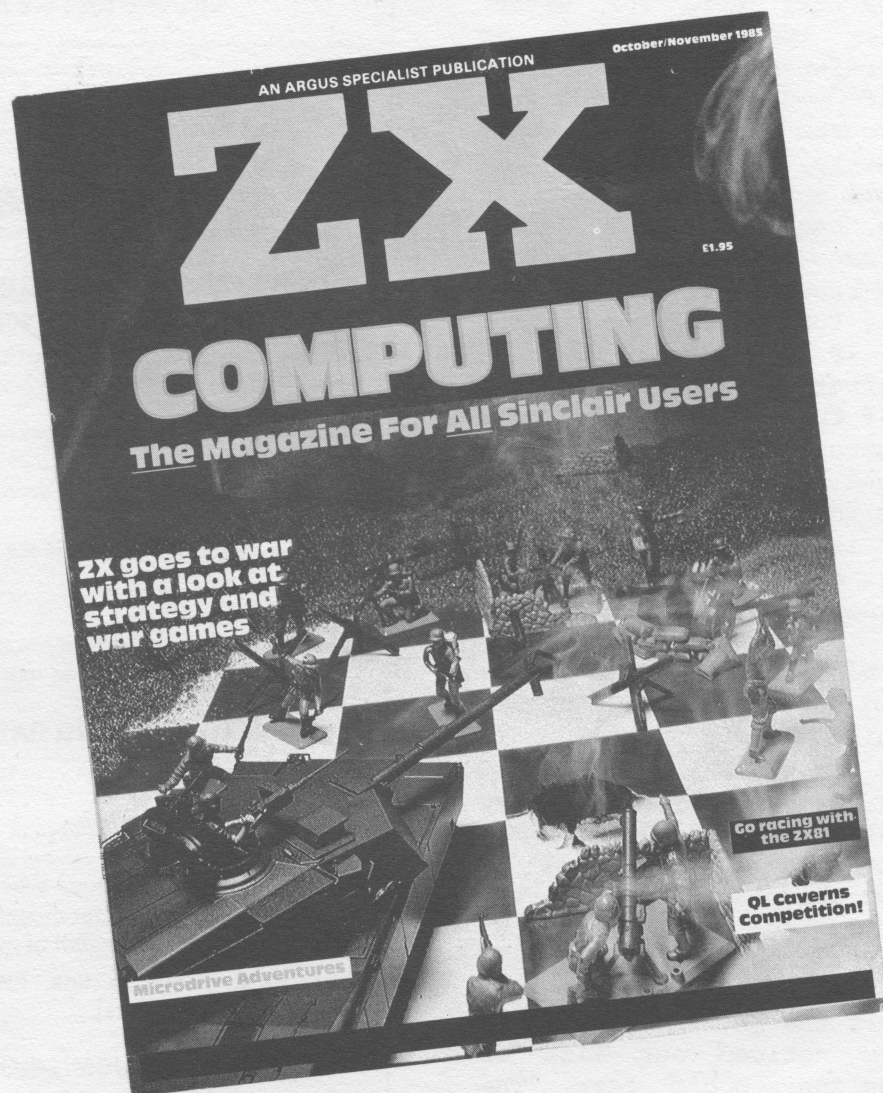


## THE SINCLAIR/TIMEX USERS MAGAZINE

Volume III

NOVEMBER 1985

Number 11



— Inside This Issue —

Review of ZX Computing Magazine  
Enhancing the A & J Microdrive  
"Santa-C" . . . Just for the Holidays

## From the Editor

I would like to thank everyone for their support over the past year and wish everyone a happy holiday season. Thanks for all the letters and contributions of articles we have received. I've had several questions regarding articles submitted to us. We love to receive articles in any form, but we would prefer that they be sent to us as a text file for either Tasword, Textwriter +64, or MScript in that order of preference in 42 column format. Also, if you are sending an article with a program listing, we would prefer it on cassette, also.

We check out all submissions and work out some of the bugs (if any) before publication. We can publish an article much sooner if we receive it this way. We are willing to pay for articles published at the rate of 10 cents per text or program line (after editing). Authors should indicate if they wish to be paid when submitting material.

Please note that your expiration date is printed on the top line of your mailing label (Your first issue may not have this printed) with four digits. The first two digits indicate the year, the second two are the month.

We are always happy to hear from you -- whether it be good or bad, and support constructive criticism about how SUM is run, looks, and continues. As Richard stated last month, we are playing catch-up this month so that our magazine will be getting to YOU the month it is for.

With the QL now being sold here in the US, we are now looking for someone to support and write about the QL as a regular monthly feature in SUM. We do intend to support the QL.

You've probably noticed our list of back issues dwindling. Don't fear, "The BEST of SUM" should be available near the end of December. This will contain the best of all back issues of SUM through December 1985. It will also contain the best of the original Gainesville TUG Newsletter dating back to January 1983.

Once again, thanks for your continuing support and don't forget to tell our advertisers that you saw it in SUM!

--Joe Williamson

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# Review: ZX Computing Magazine

EDITOR'S NOTE: With this article, SUM is beginning a new series on other publications of interest to Timex/Sinclair users.

ZX COMPUTING is one of the most popular British publications devoted exclusively to the Sinclair computers. Having had a subscription to it for more than 2 years, there are certain things that can be said with confidence about it.

ZX COMPUTING covers both the ZX-81 and Spectrum computers. This is good news for users of the ZX-81 and TS-1000 since most other publications seldom provide information for these users. Every issue will have 2 or more complete listings of games and/or utilities just for the ZX-81. And these are generally quite substantial, requiring the 16K RAM and are quite sophisticated. A number of software and hardware reviews also appear in each issue as well as advertising by companies serving the ZX-81 market.

The Spectrum is the main computer supported by the magazine, with 8-10 programs listed in full each issue. Most listings are in BASIC, so they will run on the 2068 with no modification except for a few PEEK or POKE commands (or as is with ROMswitch or emulator). In addition, numerous reviews of hardware and software currently available is covered. For those with QLs, an occasional article is starting to appear for those machines. After two years, I have dozens of quite good games -- most of which I haven't had the time to type in. However, I have been generally happy with the quality of those I have entered, some of them true commercial quality.

Examples of programs found in the most recent issue:

1. Clock -- machine code utility for using the Spectrum's own built-in clock to display time;
2. Sapro -- space strategy game;
3. Pluto Adventure -- text adventure game;
4. QL Characteristics -- udg's on the QL;
5. Road Race -- ZX-81 graphics game
6. Spectrum Disassembler in BASIC;
7. FISH -- like the card game on Spectrum;
8. Ask Me Another -- educational program for Spectrum which can be customized;
9. Attack of the Mutant Wallies -- arcade game; a "wally" is the same as a "nerd";

10. Twenty-One -- similar to BlackJack but uses "computer dice" on the ZX-81.

The current issue had articles on machine code programming, microdrive tricks, full-size keyboard review, at least 12 software reviews, 4 book reviews, and lots of letters to the editor.

ZX COMPUTING is primarily oriented toward games as far as program listings go. However, the articles span the range from machine code to microdrive use, and from trouble shooting to book reviews. It is published six times per year and seems to always be on time. U.S.A. surface rates are \$30/year. In addition, back issues and program listings on tape are available. A typical issue seems to be around 120 pages. Access (Mastercard) and Visa are accepted.

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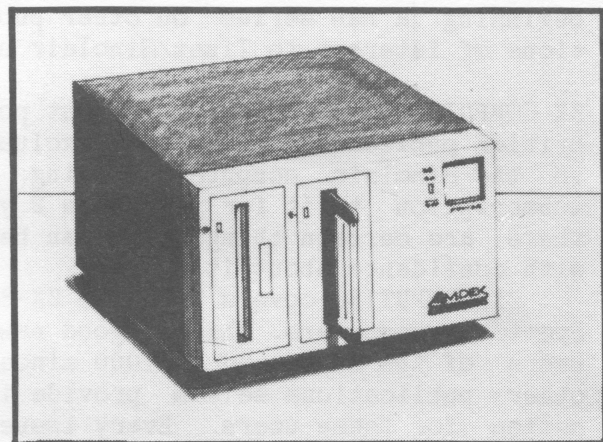
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**Note:** We urge you to become a member of the SPDOS worldwide user group run by Abbeydale Designers, (the people who wrote the SPDOS system). Their timely newsletter will keep you posted on all the new developments occurring in SPDOS and they can offer tips and suggestions for getting the most out of your disk interface.

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# "Santa-C" Holiday Program

This program contains two novel approaches to BASIC programming of the 2068 computer that I developed in teaching the subject in adult education classes. One is a departure from the text-book method of programming BEEP (music?) and the other is the concurrent playing of BEEP music with animation. We get by with such a mixture in this instance because the melody is the familiar, bouncy jingle called, SANTA CLAUSE IS COMING TO TOWN. It's from the score shown in figure 1. This is a display type of program. Run it, look, and listen.

Here, for those interested in how it works, is an explanation. First off, BEEP music on the 2068, as the Manual presents it and is usually written, is awkward. Programs require many BEEP and/or DATA lines to store the values of duration and pitch. Duration usually has decimal values and pitch may have negative ones. Values such as this are a nuisance to enter because the keyshifting to get commas, decimal points, and negative signs is time consuming and error prone.

SANTA-C takes a different approach. It assigns duration to a sequence of lower case variables, using letters "a" to "j" where they have arbitrary values from .25 to 20. These values are, for the prime notes of the scale, a geometric

progression and double in value from one prime note to the next longer one. Some notes may have values that are mid-way to the prime ones. Lines 1010 and 5130 of the LISTING assign such values to the variables, so the quarter-note gets a value of 4, the whole-note a value of 16, a thirty-second note a value of 0.5, etc. Rests, periods of silence, use these same values.

At this stage it is necessary only to establish their proper time relationship to each other so that a quarter-note has a duration of one-quarter of a whole-note. The tempo or playing speed of a song can then be varied simply by changing the denominator, here 48, that appears in the BEEP lines 1135, 1235, and 1335. Increasing the 48 increases the tempo.

SANTA-C uses the same pitch values that are given in the manual. But these can be negative if any note has a pitch below middle C of the scale. When the melody has such a note, an arbitrary constant of 10 is added to all notes of the song to eliminate negatives. and then, in the BEEP line, a compensating 10 is deducted. Refer to and compare lines 1135, 1235, and 1335.

These two departures from the conventional allow us to use strings to store the duration and pitch values of a sequence of musical notes and rests. Every

**SANTA CLAUSE IS COMIN' TO TOWN** Moderato

The musical score is written on a single staff with a treble clef and a key signature of one flat (B-flat). The tempo is marked 'Moderato'. The melody is accompanied by guitar chords indicated by letters above or below the staff. The lyrics are written below the staff, with some words in parentheses indicating alternative phrasings. The score is divided into two systems, with the second system starting with a '2.' indicating a second ending.

Chords: C7, F, Fm, C, C7, Fm, C, Am, Dm, G7, C, 1. G7, C7, F, D7, G, D7, G, C, C7, F, Fm, C, C7, G7, C.

Lyrics: You bet-ter watch out, you bet-ter not cry, Bet-ter not pout, I'm He's mak-ing a list and check-ing it twice, Gon-na find out who's tell-ing you why: } San-ta Claus is com-in' to town. } rough-ty and nice, } 2. He sees you when you're sleep-in', He knows when you're a- wake, He knows if you've been bad or good, So be good for good- ness sake. Oh, You bet- ter watch out, you bet-ter not cry, Bet- ter not pout, I'm tell-ing you why: San- ta Clause is com-in' to town.

FIG.1

note that we are likely to encounter can be represented by just three characters, a lower case letter and 2 digits. Such strings can easily be sliced into pieces of 3 characters each in a FOR-NEXT loop. The first of these characters contains the duration value; the second and third contain the pitch value. These values are converted to numerical ones and adjusted if need be and then sent to a BEEP line that renders the proper tone.

Why use strings instead of DATA lines? For many applications on the 2068, strings are more concise and easy to manipulate. DATA lines always involve commas, and sometimes negative signs and decimal points. Workable, but confusing and tedious because of the key shifting required. All of the music for the jingle this program produces is contained in the 3 strings of lines 1020 to 1040. DATA lines would require nearly five times the program space for the same information.

Normally the 2068 can do only one thing at a time, either BEEP or take some action. So BEEP music and animation do not readily mix. SANTA-C mixes the two however, and gets away with it because the tune selected is somewhat a bouncy strain that seems to blend with the prancing steps of the reindeer. The program is arranged so that it plays a note, does one part of the animation picture, plays the next note, does a second part of the picture, plays the next note, etc. (Ed. note: try adding sleigh bells. Try adding SOUND 0,34;1,0;2,26;3,0;4,12;5,0;6,0;7,0;8,16;9,16;10,16;12,8;13,8)

-- Warren Fricke

```

2 REM
3 REM
4 REM
5 REM
6 REM
7 REM
10 GO SUB 5000
200 GO SUB 4000
400 DIM e$(32)
50 LET f$=e$+CHR$ 144+CHR$ 145
+CHR$ 146+CHR$ 145+CHR$ 144+CHR$
145+CHR$ 146+CHR$ 145+CHR$ 151+
CHR$ 152
60 LET g$=e$+CHR$ 147+CHR$ 148
+CHR$ 149+CHR$ 150+CHR$ 147+CHR$
148+CHR$ 149+CHR$ 150+CHR$ 153+
CHR$ 154
70 LET h$=e$+CHR$ 149+CHR$ 150
+CHR$ 147+CHR$ 148+CHR$ 149+CHR$
150+CHR$ 147+CHR$ 148+CHR$ 153+
CHR$ 154
1000 RESTORE S130
1010 READ a,b,c,d,e,f,g,h,i,j
1020 LET a$="d17d14d15e17f17d17d
19d21e22g22d14d15e17e17d19d17
e15g15e14e17e10e14e12g15e09i10"
1030 LET b$="g79e79d79"
1040 LET c$="g59e59e12e14e12e11e
12e09g09e12e14e12e11e12f09e14e16
e14e13e14e11e11e11d11d12e14e10e1
1e09e07e69f07d07d04d05e07f07d07d
09d11e10g12d04d05e07e07e07d09d07
e05g05e04e07e00e04e02g05e14j12h6
9"

```

```

1050 LET d$=a$+b$
1100 FOR n=1 TO LEN d$-2 STEP 3
1135 LET duration=VAL d$(n): LET
pitch=VAL d$(n+1 TO n+2)-10: BE
EP duration/48,pitch: GO SUB 200
0+(1000 AND n/2=INT (n/2)): NEXT
n
1200 FOR n=1 TO LEN a$-2 STEP 3
1235>LET duration=VAL a$(n): LET
pitch=VAL a$(n+1 TO n+2)-10: BE
EP duration/48,pitch: GO SUB 200
0+(1000 AND n/2=INT (n/2)): NEXT
n
1300 FOR n=1 TO LEN c$-2 STEP 3
1335 LET duration=VAL c$(n): LET
pitch=VAL c$(n+1 TO n+2)-10: BE
EP duration/48,pitch: GO SUB 200
0+(1000 AND n/2=INT (n/2)): NEXT
n
1350 PAUSE 30
1360 GO TO 1100
2000 REM FIRST POSITION
2005 PRINT AT 6,0: INK 6;f$( TO
32): INK 6;g$( TO 32): GO TO 350
0
3000 REM SECOND POSITION
3005 PRINT AT 6,0: INK 6;f$( TO
32): INK 6;h$( TO 32)
3500>LET f$=f$(2 TO LEN f$)+f$(1
): LET g$=g$(2 TO LEN g$)+g$(1):
LET h$=h$(2 TO LEN h$)+h$(1): R
ETURN
4000 REM BACKGROUND
4005 BORDER 0: PAPER 0: INK 7: C
LS
4020 FOR n=1 TO 20
4030 PLOT OVER 1: INK (3*RND+4);
255*RND,30*RND+145
4040 NEXT n
4050 PLOT 0,48: DRAW 255,32
4060 PLOT 0,112: DRAW 110,-51
4070 PRINT AT 14,5;" ";AT 1
5,5;" "

```

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```

4080 PRINT AT 16,5; INK 1; "
AT 17,5; "
4090 PRINT AT 16,6; INK 6; "
AT 16,9; "
AT 17,9; "
4100 PRINT AT 13,5; INK 2; "
4120 PRINT INK 1; AT 12,5; "
AT 11,5; "
AT 9,8; "
4130 PRINT INK 1; AT 11,6; "S"; O
ER 1; CHR# 8; "S"
4140 PRINT INK 1; AT 10,7; "O"; O
ER 1; CHR# 8; "S"
4150 PRINT FLASH 1; INK 4; PAPER
AT 20,2; "MERRY CHRISTMAS "; AT
21,2; "
4160 PRINT INK 4; AT 9,26; "
AT 10,25; "
AT 11,26; "
AT 12,
25; "
AT 13,26; "
AT 14,24
5; "
AT 15,23; "
AT 1
6,22; "
4170 FOR I=16 TO 18: PRINT INK 6
AT I,26; "NEXT I
4200 PRINT AT 8,25; "
4210 PRINT AT 9,25; "
AT 9,27; "
4220 PRINT AT 11,28; "
AT 13,28
; "
AT 14,29; "
AT 15,30; "
4230 PRINT AT 17,11; "
AT 18,2;
"
AT 20,21; "
4250 RETURN
5000 REM SLEIGH GRAPHICS
5002 FOR J=USR CHR# 144 TO USR
CHR# 154+7: READ K: POKE J,K: NE
XT J
5005 RETURN
5010 DATA 0,2,4,8,120,24,28,27
5020 DATA 0,0,0,0,0,0,24,240
5030 DATA 0,16,16,32,96,176,24,2
7
5040 DATA 19,15,6,26,32,64,0,0
5050 DATA 112,242,48,32,64,12
5060 DATA 19,79,60,32,16,8,0,0

```

```

5070 DATA 112,242,48,32,32,64,12
5080 DATA 0,0,6,7,2,3,7,7
5090 DATA 0,0,1,2,8,21,68,170
5100 DATA 95,151,188,82,49,15,0,
0
5110 DATA 218,254,8,20,34,255,0,
0
5130 DATA .25,.5,1,2,4,6,8,12,16
,20

```



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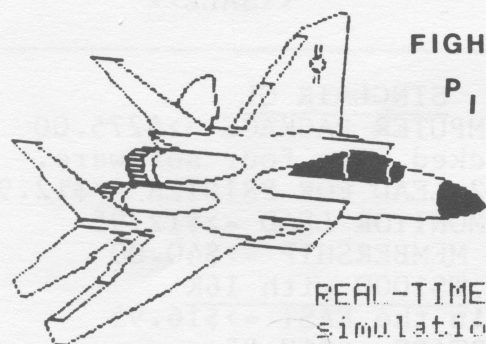
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# Poor Man's Word Processor/TS-2068

This program was developed to be used with a "home brew" interface before I found John Olinger had a neat little interface that is hard to beat. The program can be used with any printer. Some modifications may have to be made since this one was for use with the JUKI 2200. (I don't recommend the JUKI 2200 however since, in my opinion, it has serious shortcomings, unknown to me, until after purchase.)

Enter the program as shown. To LOAD program, use LOAD "WP" or "". It will auto run when loaded. To become familiar with the program, STOP the program when prompted to do so by entering any letter. The program is looking for a number. A letter will stop it with error: 2 Variable not found, 1340:1.

LIST the program and notice the program has line numbers 1, 2, then skips to 999. These missing line numbers are used for DATA lines containing your material to be printed. Each paragraph is typed in using a line number and the DATA statement. Like this example:

```
10 DATA "This is the sentence to be printed."
```

Printed, it will look like this:

This is the sentence to be printed.

An empty DATA line results in a skipped line for paragraph separation. An easier method is to use a comma and a pair of quotes at the end of a line. Example:

```
10 DATA "This is the sentence to be printed", ""
```

The comma and double quotes prints a blank line.

The program starts at line 1330. A is the line counter. B is the page counter and is initially set at 49 (ASCII for 1). Poke 23609, 50 sounds a BEEP at each keystroke. POKE a smaller number to 23609 for a shorter BEEP or larger number for a longer BEEP.

Line 1340 selects number of characters printed per inch. If your printer does not

have this capability, you will need to know how many characters per inch your printer does print and change line 1340 to: 1340 LET E=n. Where n equals characters per inch and DELETE lines 1339, 1350, and 1360.

Line 1370 lets you select printer line length. The numbers printed on the screen suggest three sizes. However any reasonable number, including fractions like 4.5, 4.6, 5.4 etc. can be used.

Selection is done by: E (set in line 1340) \* number selected (F)= number of characters per line (D). Example: If E=12 and 4 is entered,  $12*4=48$  characters per line.

characters per line direct, change line 1340 to: 1340 INPUT;"Enter number of characters per line ";D. Any method may be used but since D=number of characters per line, it must be defined. Lines 1380 to 1405 set the parameters for the JUKI. DELETE these lines or change as needed for your printer.

Lines 1410 to 1440 allow entering of prerecorded DATA files. Press M and start tape. When tape is loaded, printing will start automatically. If the program already has a data file within, pressing ENTER will start the printing process. CAUTION: Do not enter a DATA file that uses lines 1, 2 or 999 to 1510. TO do so will invalidate the program.

Before printing starts, several things take place. First, line 1450 determines if this is the first page to be printed. If it is, the program goes to line 1510 where A is moved from 1 to 7. This shortens the page by 7 lines to allow for headings. If not the first page, then lines 1469 to 1500 are executed. If this is not the first page, line 1470 prints page number then skips a line before printing continues.

Line 1469 checks to see if the printer is busy. If it is, the line loops itself until the printer is no longer busy. This same check will be found before each OUT statement where needed.

Line 1500 directs the program to line 1010. Lines 1010 to 1090 loads A\$ with first, or next DATA statement and looks at the end of the line to see if it ends in a

space. If not, a space is entered between the first and second word and the check is made again. If there is still no space at the end, a space is added between the second and third word and continues until a space is found at the end of the line.

When all lines in the DATA statement are properly spaced, the sentence or paragraph will be printed on the screen and to the printer. Because the screen is only 32 characters wide, it will not illustrate the actual printing. What you see is NOT what you get.

Lines 1095 to 1130 send one character at a time to the printer. Line 1120 checks to see if the proper number of characters per line have been printed. When line is full, line 1160 counts the line number and outputs a line feed to the printer. Line 1170 resets V, the character counter and returns to the printing loop.

Line 1140 sets printer to the next line and goes to line 1000 where the line count variable A is checked to see if 52 or more lines have been printed. If not, another DATA statement is loaded into A\$ and the procedure is repeated.

If more than 52 lines (45 for 1st page) have been printed, program goes to line 1290 where program is halted and message to change paper is printed. Entering a P in either upper or lower case continues printing at line 1470.

The program continues until all DATA lines are sent to the printer. At this time the program stops with out of data statement. To reprint the same text, RUN the program again.

There will be a delay between a request for printing and actual printing. This delay is due to the time it takes for the BASIC program to check for and introduce spaces between words. Generally, the longer the sentence or paragraph, the longer the delay.

There are a couple of pitfalls to be aware of. If the line length selected is too short or there are too many long words in the line, there may not be enough spaces available to arrive at a space at the end of the line. Spaces are only added one time between each word. If this does not bring a space to the end of the line, a word will be broken. This happens so seldom it is not considered a problem. If it does, rearrange the sentence.

The lines in a complete paragraph are counted before the algorithm for end of page is executed. This was done to enable

the complete paragraph to be printed intact. If the last paragraph is too long you can run out of paper. Again this has not been a problem but can happen. If this becomes a problem, change the count in line 1000 to less than 52.

A backup copy of this program is recommended. Use GOTO 1280 to SAVE. Program will auto run when loaded. Good printing!

-- Thornton E. Benson  
Benson, AZ

1 REM \*WORD PROCESSOR FOR  
JUKI LETTER PRINTER. Thornton E.

Benson. Δ 1985

2 GO TO 1330

999 REM \*COUNTS LINE NUM. FOR  
END OF PAGE, INSERT SPACE IN  
FIRST LINE OF TEXT. SENDS TEXT  
TO PRINTER IF LESS THAN ONE  
LINE LONG.\*

1000 IF A>=52 THEN GO TO 1290

1010 CLS : READ A\$

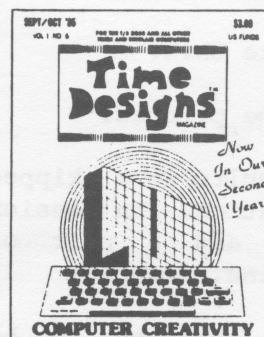
1020 IF LEN A\$<D+1 THEN GO TO 10  
95

1027 REM \*ALGORITHM FOR INSERT  
SPACES UNTIL SPACE AT END OF  
LINE\*

1030 LET N=0

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```

1035 FOR N=N TO LEN A$ STEP D
1040 IF N+D>LEN A$ THEN GO TO 10
95
1045 FOR X=N+1 TO N+D
1050 IF A$(N+D)=CHR$ 32 THEN GO
TO 1080
1052 IF X-1=0 THEN GO TO 1080
1055 IF A$(X)=" " AND A$(X-1)<>"
" THEN GO TO 1070
1060 GO TO 1080
1065 STOP
1070 LET A$=A$( TO X)+" "+A$(X+1
TO )
1075 IF A$(N+D)=CHR$ 32 THEN NEX
T N
1080 IF N+D>LEN A$ THEN GO TO 10
95
1085 NEXT X
1090 NEXT N
1091 REM *PRINTS PARAGRAPH AND
SENDS LETTERS ONE AT A TIME TO
PRINTER*
1095 LET A=A+1: PRINT A$
1100 LET V=1
1105 FOR Z=1 TO LEN A$
1109 IF IN 127=253 THEN GO TO 11
09
1110 OUT 127, CODE A$(Z)
1115 LET V=V+1
1120 IF V=D+1 THEN GO SUB 1160
1130 NEXT Z
1139 IF IN 127=253 THEN GO TO 11
39
1140 OUT 127,13
1150 CLS : GO TO 1000
1160 LET A=A+1: OUT 127,13
1170 LET V=1: RETURN
1178 REM *SAVES PROGRAM AND
AUTO RUN ON LOAD*
1280 SAVE "WP" LINE 1
1285 STOP
1289 REM *STEPS PAPER TO NEXT
PAGE AND NUMBERS PAGE*
1290 PRINT AT 10,6;"Change paper
"
1310 INPUT "Enter ""P"" to conti
nue ";Q$
1320 IF Q$="p" OR Q$="P" THEN GO
TO 1470
1325 GO TO 1310
1329 REM *START OF PROGRAM*
1330 LET A=1: LET B=49: POKE 236
09,50
1335 PRINT AT 10,3;"""STOP"" pro
gram at this time";TAB 4;"to ent
er text by entering";TAB 4;"any
LETTER."
1339 REM *SETS PRINTER PARAMETER
S*

```

```

1340 INPUT "SELECT PITCH: 10, 12
OR 15 ";E: CLS
1350 IF E<>10 AND E<>12 AND E<>1
5 THEN GO TO 1340
1360 IF INKEY$<>"" THEN GO TO 13
60
1369 REM *SELECTS LINE LENGTH &
PROGRAMS PRINTER*
1370 INPUT "ENTER LINE LENGTH (4
TO 7)      4=NOTE SIZE: 6=LETTE
R SIZE      7=FULL PAGE. ";F: LE
T D=INT E*F
1380 IF E=10 THEN LET F=13
1390 IF E=12 THEN LET F=11
1400 IF E=15 THEN LET F=9
1405 OUT 127,27: OUT 127,31: OUT
127,F
1409 REM *PROVISIONS FOR ENTERIN
G PRERECORDED FILES*
1410 CLS : PRINT AT 10,2;"TO MER
GE FILE TOUCH ""M"";AT 12,2;"TO
PRINT TOUCH ""ENTER""
1420 LET Y=CODE INKEY$: IF Y<>10
9 AND Y<>77 AND Y<>13 THEN GO TO
1420
1430 IF Y=13 THEN GO TO 1450
1435 CLS : PRINT AT 10,3;"INSERT
TAPE AND PRESS PLAY"
1440 MERGE ""
1449 REM *IF NOT 1ST PAGE NUMBER
S PAGE, RESETS LINE COUNTER &
ADVANCES PAGE COUNTER*
1450 IF B=49 THEN GO TO 1510
1469 IF IN 127=253 THEN GO TO 14
69
1470 OUT 127,B: OUT 127,13
1480 LET A=1
1490 LET B=B+1
1500 GO TO 1010
1509 REM *SETS 1ST PAGE 7 LINES
SHORTER FOR HEADING ROOM*
1510 LET A=7: GO TO 1490

```



# Enhancing the A & J Microdrive

Here is my collection of some of the programs I have come up with which will enhance some of your programs (like Tasword and VU-Calculator) to make full use of your Microdrives.

With Tasword, one hint that will help in re-saving text files when several are on one tape is to place several asterisks at the last position in the file in line 300. This will create a file on tape capable of holding up to 300 lines, even though your current file is smaller. This will prevent saving over the next program or file on that tape.

-- Howard Ballinger

```
1 REM      "@1" 2-1-85
      (Howard A. Ballinger
      636 Albemarle,
      El Cerrito Ca 94530)
      Update of 8-9-85
2 REM      HI I AM AT-ONE
```

Save me onto the beginning of an A & J Micro Drive microtape and you can catalog its contents on screen or on a TS-2040 printer.

```
3 REM      ... I fold up the
catalog lists from the printer
and keep 'em in a folder with
the microtapes themselves --
neat !!
4 REM      TO RETURN TO MENU
      GO TO 80
5 REM      TO USE, TURN OFF printer;
INSERT the tape in the drive;
ENTER LOAD "@1" and then just
follow prompts.
```

```
6 REM      To SAVE me to another
microtape, see menu.
```

```
9 REM      NOTE -- DISREGARD THE
SCREEN YOU WANT RIGHT
RETURN YOU LOAD THIS
PROGRAM. YOU HAVE TO
PULL IT TO GET A
CATALOG.
```

```
19 BORDER 0: PAPER 0: INK 7: C
LS : RETURN
20 BORDER 7: PAPER 7: INK 0: C
LS : RETURN
22 BEEP .1,12: BEEP .1,-12: BE
EP .1,16: RETURN
23 BEEP .1,7: BEEP .1,19: RETU
RN
60 GO SUB 23: GO SUB 19: PRINT
AT 3,14;"AT-ONE";AT 4,14;"
";AT 6,2;"1 to catalog this Mic
rotape";AT 8,2;"2 to load a file
";AT 12,2;"0 to enter Basic"
61 PRINT AT 10,2;"3 to save At
-One"
```

```
62 LET W$=INKEY$: IF W$="" THE
N GO TO 62
63 IF W$="1" THEN GO SUB 20: G
O SUB 22: PRINT AT 10,1: PAPER 5
;"TURN PRINTER ON IF YOU WANT TO
": PAUSE 120: CLS : LOAD "@1"
64 IF W$="2" THEN GO SUB 20: G
O SUB 22: PRINT AT 8,2;"ENTER ex
act filename (starts with ""@
""": INPUT L$: GO SUB 23: LOAD
L$
66 IF W$="0" THEN GO SUB 20: B
EEP .1,16: BEEP .3,-12: GO TO 99
99
67 IF W$="3" THEN GO TO 99
69 GO TO 62
70 REM
71 PRINT AT 2,19;"CATALOG";AT
4,19;"of S/F # 1";AT 5,19;"
";FOR t=1 TO 21: PRINT AT
t,0;" ";CHR$(49+t);": N
EXT t
72 PRINT AT 8,19;"File # for";
AT 9,19;"next SAVE";AT 10,19;"is
marked";AT 11,22;"@1""": COPY
: INPUT "Press ENTER to proceed
": LINE 9#
73 GO TO 60
90 GO SUB 22: GO TO 70
99 GO SUB 23: PRINT AT 16,6;"s
aving ...": SAVE "@1,1" LINE 90:
PRINT AT 18,10;"Verifying ...":
GO SUB 23: VERIFY "@1": GO SUB
22: GO TO 9999
```

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10 REM

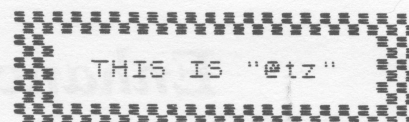
# MICROTAPE CHECKER

```

40 GO TO 9000
50 PRINT "BLANK TAPE IN
DRIVE NOW !!!"
55 INPUT "ID code for this tap
e: ";T$
100 GO SUB 8888: SAVE "@1,+"
200 LET A=1
1000 REM
1050 DIM f$(87,100)
1090 ON ERR GO TO 7000
1100 LET A$=STR$ A: SAVE "@"+A$+
",BlnkFl"+A$ DATA f$( )
1110 ON ERR RESET
1150 VERIFY "@BlnkFl"+A$ DATA f$(
)
1200 POKE 23692,255: PRINT " NO
W ";A*10;"K. BYTES ARE CHECKED,
""
1250 PRINT
1500 LET A=A+1: GO TO 1090
2100 SAVE "@1,TapeChk" LINE 9000
: PRINT AT 21,19;"VERIFYING..."
: VERIFY "@TapeChk"
2200 LET A=1
2300 BORDER 0: INK 7: PAPER 0: C
LS
2400 PRINT AT 4,0
3050 DIM f$(87,100)
3100 ON ERR GO TO 4000
3110 LET B$=STR$ (A+1): LET A$=3
TR$ A: SAVE "@"+B$+",blnkFl"+A$
DATA f$( )
3120 ON ERR RESET
3150 VERIFY "@blnkFl"+A$ DATA f$(
)
3200 POKE 23692,255: PRINT " NO
W ";(A*10+3);"K. BYTES ARE CHECK
ED, ""
3250 PRINT
3500 LET A=A+1: GO TO 3100
4000 ON ERR RESET
4010 ON ERR RESET
4020 LPRINT TAB 10;"* * * * *
""PHASE II:"";10*(A-1)+3;" K. O
F FILES SAVED""& VERIFIED, INCL
UDING ""@TapeChk"""" Bye!""
4100 GO TO 9999
6700 CLEAR : SAVE "TapeChk" LINE
9000: SAVE "TapeChk" LINE 9000:
VERIFY "TapeChk": GO TO 9999
7000 ON ERR RESET
7050 LPRINT ""@TapeCheck"" Re
port for"" Microtape ";T$
7100 LPRINT "SAVED & VERIFIED "
;A-1;" FILES OF""ABOUT 10 K.LEN
GTH COUNTING GAPS.NO ERRORS SO F
AR. PROCEEDING WITH PHASE II.
""
7150 CLEAR : PRINT AT 21,0;"ALL
SAVED -- NOT SAVING 8888"
7200 GO TO 2000
8800 PRINT #1,AT 0,0;"at END OF
FILE ... GO TO 7000": RETURN
8888 CLS : FOR n=1 TO 22*32: PRI
NT FLASH 1;" ";NEXT n: PRINT A
T 10,10: PAPER 4;" @TAPECHK "
8889 FOR n=9 TO 11 STEP 2: PRINT
AT n,10: PAPER 6;" "
NEXT n: REM that's 10 spaces
8990 PRINT AT 21,0: RETURN
9000 REM START HERE
9005 INK 0: PAPER 7
9010 CLS : BORDER 2: PRINT AT 9,
5: PAPER 5;" PUT PRINTER ONLINE
": INPUT "then press ENTER"
": LINE H$: CLS
9899 GO TO 50

```

1 REM



2 REM ... a modified  
version of Tasword (@ of course)  
basic, for the A & J Micro Drive

3 REM INSTRUCTIONS  
To use, get out your cassette of  
Tasword and load it into the  
2068. Press STOP, "b", & ENTER  
twice. Insert a fresh formatted  
microtape, 35 or 50 ft. length,  
into the Micro Drive.

4 REM ... Now, type  
the following lines (not the REM  
statements, however) into the  
Basic part of your program. When  
finished, just RUN it, go back  
to the menu, press "t" and stand  
back !!!

```

8 GO SUB VAL "11"
11 BEEP VAL ".03",VAL "16": BE
EP VAL ".03",VAL "23": RETURN
15 POKE VAL "23609",VAL "2": C
LEAR VAL "33279": GO SUB VAL "40
00": PRINT AT VAL "1",VAL "0": L
OAD "@tasword"CODE: CLS : GO SU
B VAL "11": LET a=USR VAL "59081
": GO TO VAL "10"
300 CLS : GO SUB VAL "4000": PR
INT "Printer control graphics ch
ars:"
400 CLS
401 GO SUB VAL "4000": PRINT AT
VAL "3",VAL "0": "Just ENTER to
keep values given:"
699 CLS : GO TO 9999
700 CLS : LET i=VAL "8": GO SUB
VAL "800": LET a$="tasword": SA
VE "@2,tz" LINE VAL "15"
710 SAVE "@3,tasword"CODE VAL "
54784",VAL "10751": GO SUB VAL "
900"
780 VERIFY "@tz": PRINT AT VAL
"21",VAL "0": "tasword 54784-0,K
": AT VAL "19",VAL "0":
790 VERIFY "@tasword" CODE VAL
"54784",VAL "10751": PRINT AT VA
L "21",VAL "20": "tasword 0,K":
GO TO VAL "25"
800 PRINT AT i,VAL "0": "saving
""@tz"" & Tasword @ CODE": RETUR
N
900 PRINT AT VAL "12",VAL "5": "
verifying ...": RETURN
920 REM DELETE THIS LINE
930 REM DELETE THIS LINE
940 REM DELETE THIS LINE
945 REM DELETE THIS LINE
1030 LET i=VAL "12": CLS : PRINT
"" saving ";a$: SAVE a$CODE
b,a: CLS
1050 REM DELETE THIS LINE
1098 IF a$(1)="@" THEN PRINT ""
verifying ...": VERIFY ("@"
"+ a$(4 TO )CODE b,a: GO TO VAL
"1110"
2010 PRINT AT VAL "12",VAL "2": "
Just press ENTER to load the";AT
VAL "14",VAL "2": "first file (c
assette only)"
9999 GO SUB 4000

```



```
1 STOP
2 REM
```

# MODIFIED BASIC A & J VU-FILE

3 REM TO USE, LOAD VU-File from your cassette -- press "L" then break to get to basic -- LIST the basic and fix it so it looks like this. Insert a blank microtape and enter GO TO 40 for auto-save.

4 REM No, don't type the REM statements.

5 REM TO LOAD A FILE FROM CASSETTE, GO TO 45

```
40 INPUT "BLANK TAPE IN DRIVE
0 "; LINE b$
42 SAVE "@1," LINE 50: VERIFY
"@": SAVE "@2,vfc"CODE 28288,721
6: VERIFY "@vfc"CODE : GO TO 999
9
45 CLS : PRINT "" play the
cassette ...": GO SUB 6000: LOAD
""CODE s: GO TO USR a
50 BORDER 1: PAPER 1: INK 1: C
LEAR 28287: LOAD "@vfc"CODE
```

```
100 INK 7: DIM f$(32): LET a=28
291: BEEP VAL ".2",VAL "18": BEE
P VAL ".1",VAL "34": GO TO USR 2
8288
1000 CLS : PRINT "" savin
g ...": GO SUB 6000: GO TO USR a
1005 SAVE "@3,file"CODE s,l: PRI
NT "" verifying ...": PRI
T
1100: VERIFY "@file"CODE : BEEP
.2,18: BEEP .1,34
1200 GO TO USR a
2000 CLS : PRINT "" loadin
g ...": GO SUB 6000: LOAD "@file
"CODE s: GO TO USR a
3000 LPRINT f$( TO 32): GO TO US
R a
6000 LET g$="@file": LET f$( TO
10)=g$: LET s=CODE f$(11)+256*CO
DE f$(12): LET l=CODE f$(13)+256
*CODE f$(14): RETURN
```

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```

## VENDOR REPORT

SimulSION, Box 2382, La Jolla, CA, 92038 is having a closeout sale on their old (but classic) ZX80/ZX81 software at \$.99 and \$1.79 each. Titles include: Etch-A-Screen, Checkbook Balancer, Hey, There (banner program), and Classic Games. Great stocking stuffers! They also have several books and a new addition of QL software. Write for free catalog.

Zebra Systems, 78-06 Jamaica Avenue, Woodhaven, New York, 11421, (212) 296-2385 has just announced that the Zebra FDD System (Disk Drives) is now \$349.95 but now includes MScript, a Maillist program, selected games and disk utilities. Also includes the Zebra Expansion Interface which is shipping now.

Gulf Micro, 1317 Stratford Ave, Panama City, FL 32404, (904) 871-4513 now has a new word processor for the 2068 called Smart Text TS-2068 and has a mailing list and repeat printing built in.

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# Programming Tips on the 2068

Sometimes a programming problem can be easily solved by using certain tricks. Here are a few tips and techniques to help you possibly the next time you get stuck. I hope you will find them useful.

## THE SAVE PROBLEM

To replace the message "Start tape then press Enter" you just need to POKE 26689, 38. Try:

```
10 PRINT #0; "All right, I'm  
ready.""Start your tape""AFTER  
that press ENTER"  
20 POKE 26689,38:SAVE "demo"
```

For those with a Spectrum ROM, POKE 23736,181 starts SAVEing immediatly, without waiting for a key press.

## THE SCROLL PROBLEM

This little machine code routine scrolls a certain number of lines during a certain time. These codes can be put anywhere in memory.

```
10 CLEAR 49999  
20 FOR I=50000 TO 50020  
30 READ A: POKE I,A  
40 NEXT I  
50 DATA 205,220,27,205,96,  
38,237,67,250,91,197,  
253,70,192,205,59,9,  
193,16,246,201
```

Use this routine with INPUT USR add,x,y where add=start address and x= 1st line to be scrolled, y=how many times. With the routine at 50000, try:

```
10 CLS  
20 PRINT "....Don't move.....  
.."  
30 INPUT AT 0,0;"Write something:";LIN  
E a$  
40 INPUT USR 50000,22,1  
50 PRINT AT 21,0;a$  
60 GOTO 30
```

## THE LOAD PROBLEM

Large programs are generally recorded in several parts on cassette. After the

loader program, a screen presentation is loaded and the main program is now ready to be loaded. But it's not very esthetic when the program name overprints the screen presentation.

To avoid this situation, we can add to the loader program POKE 23570,16 and in the main program, we must restore by using POKE 23570,6. PRINT and LIST will be corrupted otherwise.

## THE INKEY\$ PROBLEM

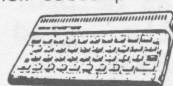
Suppose we have: 50 IF INKEY\$="Y" THEN GOTO 100. If the keyboard is in lowercase mode, the computer will see "y" instead of "Y" and pass on to the next line. Again POKE will rescue us:

```
POKE 23658,8 for UPPERCASE mode  
POKE 23658,0 for LOWERCASE mode  
POKE 23617,2 for GRAPHIC mode  
POKE 23617,1 for EXTENDED mode
```

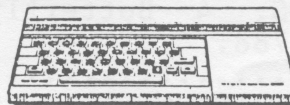
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Try:

```
10 POKE 23658,value (or 23617,value)
20 INPUT LINE a$
```

#### THE INPUT PROBLEM

In Sinclair BASIC, the INPUT statement has some limitations. When we hit ENTER, the information on the screen is cleared. The following tip will keep it on the screen. This task is performed by calling a ROM routine which scrolls the screen up a line. Note the apostrophe after the variables, its vital.

```
EX #1 10 INPUT "what?";w$'USR 2361,
      USR 2361
      20 INPUT "when?";w'USR 2361,
      USR 2361
```

```
EX #2 10 INPUT AT 0,0;"what?";w$'USR 2361
      20 INPUT AT 0,0;"when?";w'USR 2361
```

Also it's possible to do an INPUT AT in Sinclair BASIC. Try: INPUT AT 5,0;AT 0,0;"?";a But again, when we hit ENTER,

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the information on the screen is cleared. To keep this information, we can write a subroutine with INKEY\$ which simulates an INPUT statement, but an easier way would be welcome. Enter 10 REM 123456

POKE locations 26715-26719 (can be anywhere in memory) with the values 253,54,49,2,201. Now add 20 INPUT AT 10,0; AT 0,0;"month:";LINE m\$'"year:";y'USR 26715 and RUN

The first AT reserves 11 lines from screen bottom and the second will place the input on the first of these reserved lines. We must use the same BORDER and PAPER color. WHY? Try adding 15 BORDER 4: PAPER 7 Now you know...

-- Real Gagnon

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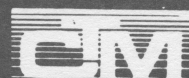
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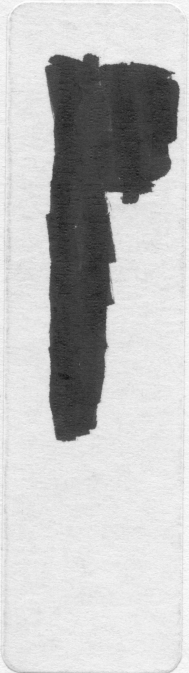
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